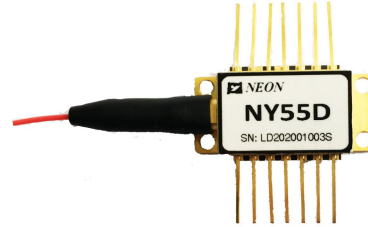


NY55D Series High power DWDM DFB laser

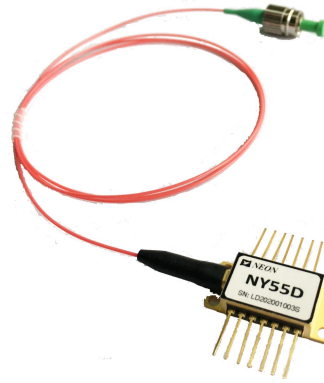
✧ Features

- High-Dynamic-Range
- Low Threshold Current
- High Output Power
- 14pin Butterfly Package
- Operating Case Temperature: -20 to 70°C
- High Reliability
- Up to 100mw high power output
- Polarization Maintaining (PM) fiber



✧ Applications

- DWDM
- CATV
- Free Space Optics



✧ Introduce of NY55D

NY55D series laser component is characterized for use as a wavelength selected, high power optical source in combination with external modulator in CATV and DWDM networks, especially for super trunking and distribution. Selected wavelengths comply ITU Grid recommendations, both in range and in channel definition.

NY55D series is equipped with polarization maintaining (PM) fiber and dc-coupled with a built-in TEC, thermistor, and monitor photodiode. The device is mounted in a 14-pin, OC-48 pin-out compatible butterfly package with the optical isolator inside the package.

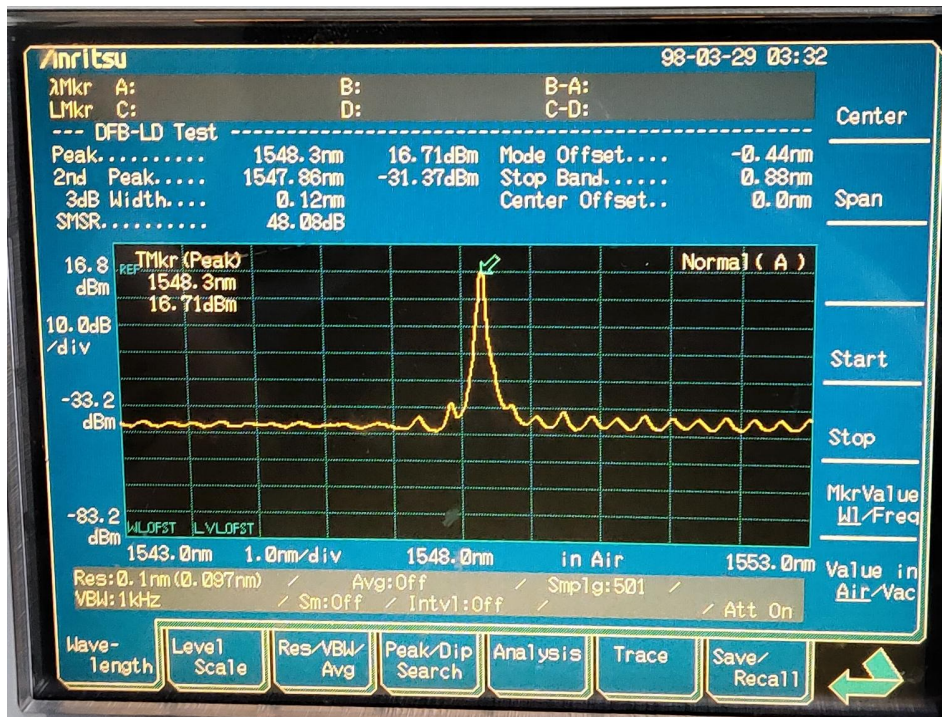
◇ Product Selection

Electrical / Optical Characteristics ($T_C = 25 \pm 3 \text{ }^\circ\text{C}$)						
Parameter	Sym.	Condition	Min	Typ	Max	Units
Frequency	f	-	0.01	-	1	Ghz
Bandwidth (-3dB,I=200mA)	S21	-	1			Ghz
Optical output power	P	40 mW version, $T = T_{set}, I_F = I_{OP}$	40	-	-	mW
		50 mW version, $T = T_{set}, I_F = I_{OP}$	50			
		63 mW version, $T = T_{set}, I_F = I_{OP}$	63			
		80 mW version, $T = T_{set}, I_F = I_{OP}$	80			
		100 mW version, $T = T_{set}, I_F = I_{OP}$	100			
Thershold current	Ith	BOL	-	-	40	mA
Operation current	Iop	40 mW version, BOL			280	mA
		50 mW version, BOL	-	-	350	
		63 mW version, BOL	-	-	450	
		80 mW version, BOL	-	-	580	
		100 mW version, BOL	-	-	650	
Operation voltage	Vop	BOL, $I_F = I_{OP}$	-	-	2.5	V
Peak wavelength	λ	$T = T_{set}, I_F = I_{OP}$	-	1550	-	nm
Rative intensity noise	RIN	-	-	-	-160	dB/Hz
Side-mode suppression ratio	SMSR		30	-	-	dB
Polarization extinctionratio	PER	$I_F = I_{OP}$	17	-	-	dB
Wavelength drift over T_C Range	$\Delta\lambda_{TOP}$	$T = T_{OP}$	-	-	40	pm
Thermistor resistance	Rth	$T_{OP}=25^\circ\text{C}$	9.5	10	10.5	K Ω
Thermistor Temp. Coefficients	T_{CTH}	$T_{OP}=25^\circ\text{C}$	-	-4.4	-	%/ $^\circ\text{C}$
TEC current	Itec	$-20^\circ\text{C} < T_C < 70^\circ\text{C}$	-1.0	-	1.5	A
TEC voltage	Vtec	$-20^\circ\text{C} < T_C < 70^\circ\text{C}$	-2.0	-	3.0	V
RF impedance	Zin	40 MHz - 1002 MHz	1	-	6	Ω
Monitor PD current	Im	$I_F = I_{OP}, V_{MPD} = -5 \text{ V}$	0.1	-	2.5	mA
Monitor PD Dark current (PD)	Id	$I_{OP} = 0 \text{ mA}, V_{MPD} = -5 \text{ V}$	-	-	0.2	μA

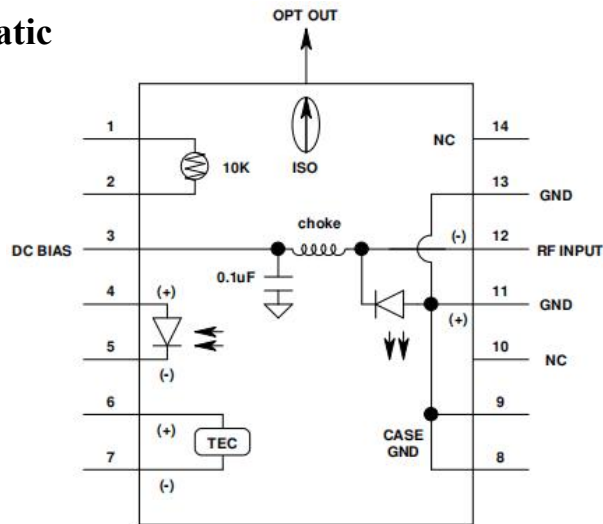
Typical & Absolute Maximum Rating					
Parameter	Sym.	Condition	Min.	Max.	Unit
Laser forward DC current	If	-	-	750	mA
Laser reverse voltage	V	-	-	2	V
Photodiode Reverse Voltage	VR	-	-	10	V
Operation temperature	To	-	-20	+70	°C
Storage temperature	Ts	-	-40	+85	°C
ESD	-	HBM: R = 1500 Ω, C = 100 pF	-500	500	V

Notes: All laser chips come from wafers that have been certified using a representative lot of devices that must achieve an acceptable yield for burn-in.

◇ Typical Data

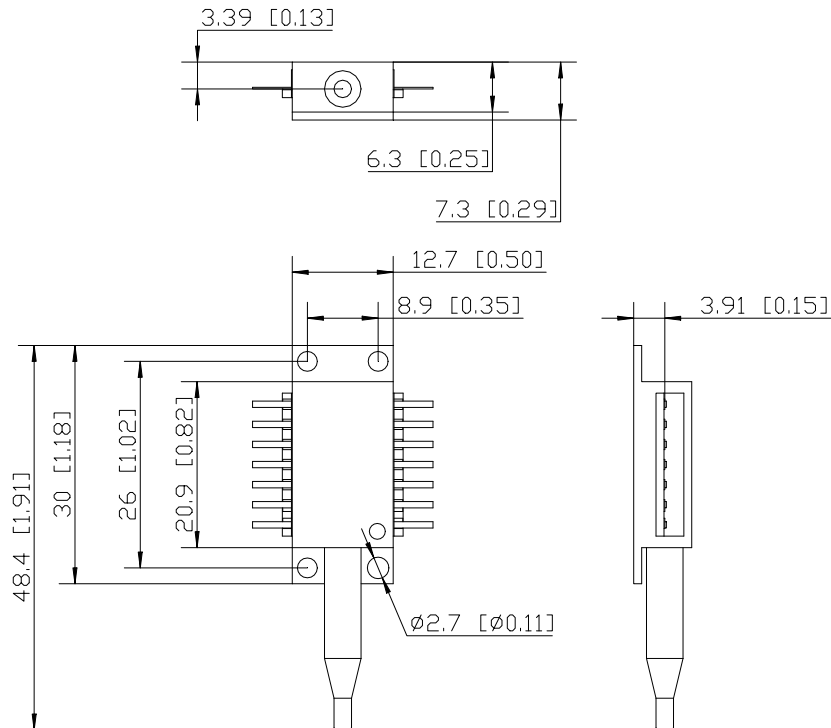


✧ **Electrical schematic**



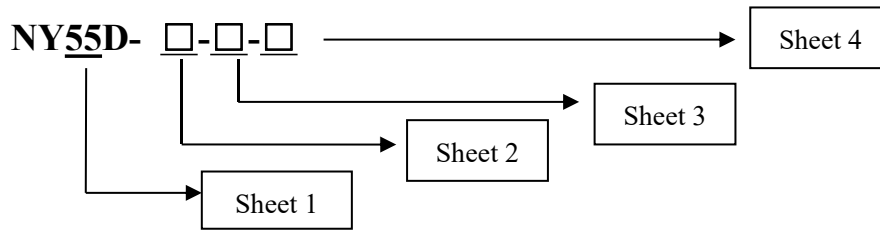
Lead#	Function	Lead#	Function
1	Thermistor	8	GND
2	Thermistor	9	GND
3	LD-(Bias)	10	NC
4	PD anode	11	GND(LD+)
5	PD cathode	12	RF IN
6	Cooler+	13	GND(LD+)
7	Cooler-	14	NC

✧ **Dimension and Pins (Unit: mm[inch])**



RF Connector: SMA

✧ Ordering Information



Sheet 1:

Code	Description
55	DWDM High Power 14PIN butterfly package

Sheet 2:

Code	Optical Power
040	40mW
050	50mW
063	63mW
100	100mW

Sheet 3:

Channel	Frequency (THz)	Center Wavelength (nm)	Channel	Frequency (THz)	Center Wavelength (nm)
C01	Any desired custom wavelength		C37	193.7	1547.72
C02	Non-ITU, 1547 nm – 1560 nm		C38	193.8	1546.92
C03	Non-ITU, 1557 nm – 1560 nm		C39	193.9	1546.12
C04	Non-ITU, 1530 nm – 1560 nm		C40	194	1545.32
C15	191.5	1565.50	C41	194.1	1544.53
C16	191.6	1564.68	C42	194.2	1543.73
C17	191.7	1563.86	C43	194.3	1542.94
C18	191.8	1563.05	C44	194.4	1542.14
C19	191.9	1562.23	C45	194.5	1541.35
C20	192	1561.41	C46	194.6	1540.56
C21	192.1	1560.61	C47	194.7	1539.77
C22	192.2	1559.79	C48	194.8	1538.98
C23	192.3	1558.98	C49	194.9	1538.19
C24	192.4	1558.17	C50	195	1537.4
C25	192.5	1557.36	C51	195.1	1536.61

NY55D High power DFB laser

C26	192.6	1556.55	C52	195.2	1535.82
C27	192.7	1555.75	C53	195.3	1535.04
C28	192.8	1554.94	C54	195.4	1534.25
C29	192.9	1554.13	C55	195.5	1533.47
C30	193	1553.33	C56	195.6	1532.68
C31	193.1	1552.52	C57	195.7	1531.9
C32	193.2	1551.72	C58	195.8	1531.12
C33	193.3	1550.92	C59	195.9	1530.33
C34	193.4	1550.12	C60	196	1529.55
C35	193.5	1549.32	C61	196.1	1528.77
C36	193.6	1548.51	C62	196.2	1527.99

Sheet 4:

Code	Description
PM	PM-FC/APC fiber connector, 0.9mm, 1m length

✧ Precautions

- The fiber bending radius no less than 20 mm for avoiding fiber damaged .**
- Be sure the fiber coupling facet is clean before connecting it to opto-circuit .**
- The suitable ESD protection is required in storage, transportation and using .**